Modelling, Objectivity, and the Digital Humanities

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The Two Cultures*

- Sciences: quantitative methods, based on objectivity
- Humanities: qualitative methods, based on subjectivity

More or less...

*Snow, Charles Percy. "The Two Cultures. The Rede Lecture, 1959," in *C.P. Snow The Two Cultures* (Cambridge: Cambridge University Press, 1998).

Leavis, Frank Raymond. *Two Cultures? The Significance of C.P. Snow.* The Richmond Lecture, 1962. (London: Chatto & Windus, 1962).

More or less

For some disciplines in the Humanities this divide has been felt as a problem:

'The search for properly "scientific" method has been perhaps the dominant thread running through the history of textual criticism' (Tanselle, 1995, pp. 18-19)

For others…
Paleography: art or science?

"I cannot teach the art of assigning dates to manuscripts: I am even inclined to think that it cannot be taught" (M.R. **James**)

"non può semplicemente esistere… una paleografia che usufruisca unicamente (o anche prevalentemente) di un metodo di studio quantitativo e misurativo" (**Petrucci**, 1996)

Derolez 2003: 'authoritarian' discipline depending on 'authority' and 'faith'

Ganz 1990: informed guesswork

The Humanities and The Machine

The Humanities and The Machine

- Fears: the machine will do or work!!
- Enthusiasm: finally the humanities will become a science!
- Digital Humanities: the bridge

"humanities computing has had to embrace *'the two cultures'*, to bring the rigor and systematic unambiguous procedural methodologies characteristic of the sciences to address problems within the humanities that had hitherto been most often treated in a serendipitous fashion" (Susan Hockey, 2004, p. 19).

The machine

- Requires data to be countable ('digital')
- Requires a pattern of behaviour
- Requires a shared language
- Requires a **model**

Modelling

Epistemological activity: we take a domain, we analyse it, we select the features we are interested in, we study their relationships, we classify them and we use these to create a model of such domain

Models (McCarty)

- "a representation of something for purposes of study, or a design for realizing something new"

- "smaller than the object"

- "the fundamental dependence of any computing system on an explicit, delimited conception of the world or 'model' of it"
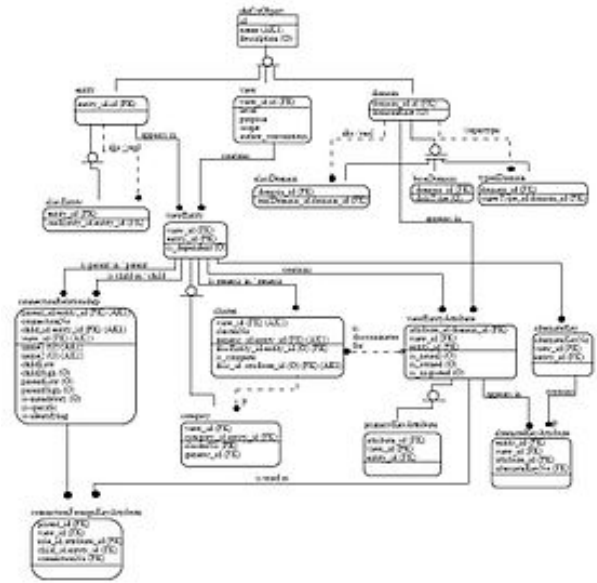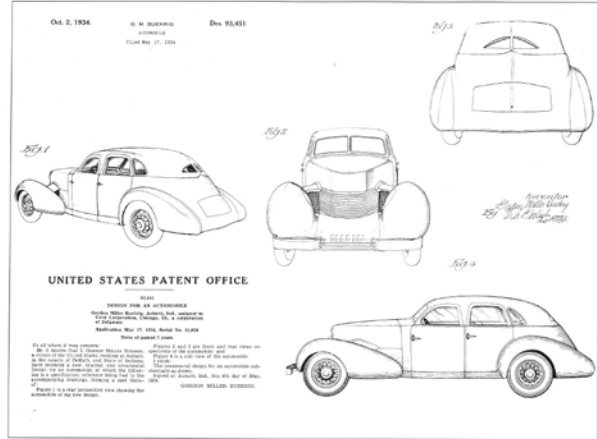
Nothing really new: Some Examples

- **Jakobson** and the function of the language
- **Saussure** langue and parole
- **Propp** and the description of fairytales
- **Shillingsburg** Text as Matter, Concept, and Action
- **Stemmata, (un)rooted trees, rhizomes**

Models: defining characteristics

1. Selection
2. Point of view/Purpose
3. Simplification
4. Function
5. Objectivity (?)

1. Selection & 2. Purpose

- Not everything is relevant for everybody
- To model we select only the features we need for our point of view /purpose (2)

- The facsimile as a model of the 'real thing'

Qual Priore|o|haba[te]
Habiti el tépio cha[...]
Se diqui non ti parti troppo tosto.
℃ Vn giouane Callimaco guadagni
Venuto hor da Parigi
Habi ta la in quella siniftra porta.
Coftui fra tucti glialtr i buon cópagni
A fegni & auestigi
Lhonor di gentileza & pregio porta.
Vna giouene accorta.
Fu dallui molto amata
Et per questo ingannata
Fu come intenderete & io uorrei
Che uoi fussi ingánate come lei.
℃ La fauola Mandragola sichiama.
La cagione uoi uedrete
Nel recitarla come io mindouino.
Non e|el componitor di molta fama.
pur se uoi non ridete
egli e|contento di pagarui el uino
Vno amante meschino:

A ii

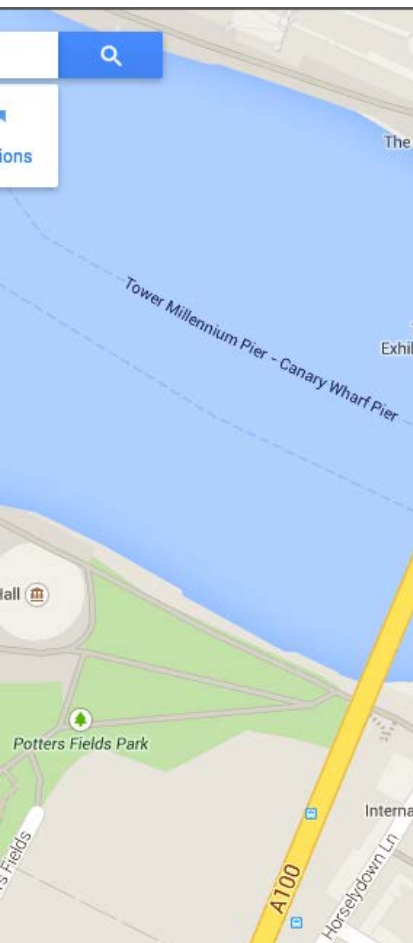# What's on the page?

What is this?

And this?

How many assumptions are behind the reading of primary sources?

- That signs are components of a alphabetical system
- That they are part of any given language
- That we know the rules of the language
- That the scribe knew them as well
- That such rules are the same

And so on

(Bordalejo 2010; Robinson 2013)

Simplification

Function

- **Model-of**: Model of an object for a purpose of study, in order to know, to understand

- **Model-for**: model to build something new, exploratory, experimental

Objectivity ?

If a model has to be used by a computer, it has to be "scientific", it has to be "objective", right?

RIGHT?

Modelling and objectivity, a match made in…?

"The model itself must be interpreted, and the critic brings his prior readings to bear on the abstract representation in just the same way he would bring them to bear on the text itself. The critic reads varieties of confirmation into the results or dismisses them" (Sculley and Pasanek, p. 410)

An objective model?

Qual Priore|o|habate.
Habiti el tépio challincontro e posto.
Se diqui non ti parti troppo tosto.
⹂ Vn giouane Callimaco guadagni
Venuto hor da Parigi
Habi ta la in quella sinistra porta.
Costui fra tucti glialtr i buon cõpagni
A segni & auestigi
Lhonor di gentileza & pregio porta.
Vna giouene accorta.
Fu dallui molto amata
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pur se uoi non ridete
egli e|contento di pagarui el uino
Vno amante meschino:

A ii

"Digitization has ushered in a new age of manuscript studies. We can now view the image of a folio on a computer screen in colour in a detail which would have been unimaginable as little 15 years ago. We can read it; compare it with other texts in other libraries; transcribe it; even, if it is faded or illegible, restore it. We need never see the document itself (though would not recommend it). " (M. Twycross, 2008)

"The ability to provide artifacts for direct examination (rather than relying on scholarly hearsay)" (Nell-Smith 2004)

Image-based editions 'subsumes the purpose of a diplomatic edition' (Kiernan 2006)

What is objectivity?

- Daston and Galison, 2007-2010
- A concept invented in the late 18th century (loads to do with Kant)
- History of objectivity via photographic atlas
- Different **epistemic virtues** in the representation of 'objects' to be studied
  - True-to-nature
  - Objectivity: Mechanical and Structural
  - Trained Judgment

True-to-nature

- You select the best specimens from a species for them to be representative

- You reproduce it at your best, conflating various exemplars so one stands for all
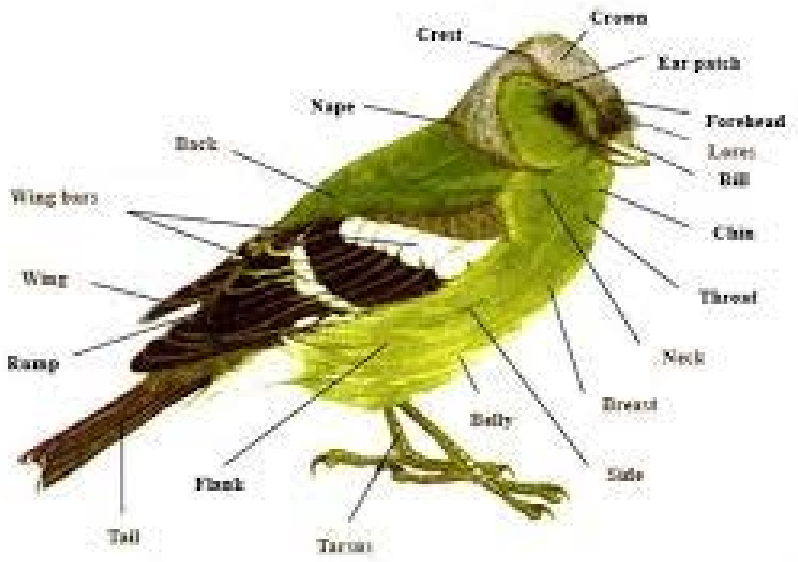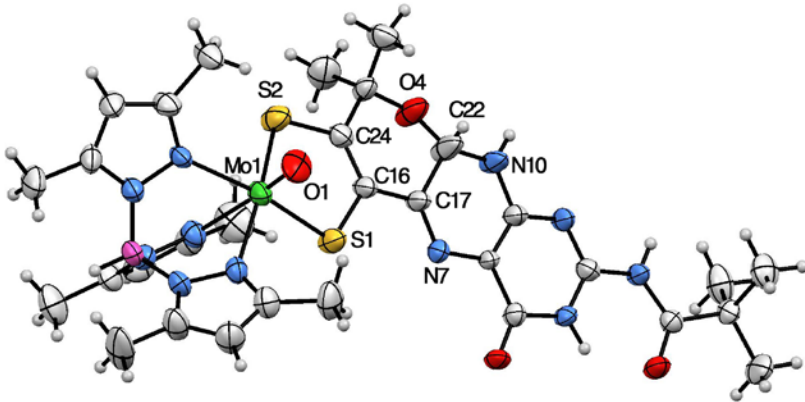
Mechanical objectivity

- Mechanical reproduction of reality
- Better many copies of imperfect specimens than one that conflates exemplars

Structural objectivity

- The mathematical laws, the logical relationship among members of group or organism, beyond appearance

- Based on systematic analysis and abstractions

Trained judgment

- Raw data is smoothed by expert to study it better

- Unsmoothed and smoothed data are presented to the judgment of the user/reader

Epistemic virtue	From before 1820 **True-to-nature**	After 1820 **Mechanical objectivity**	After 1920 **Trained judgment**
Persona	Sage	Manufacturer	Expert
Representation	Reasoned	Mechanical	Interpreted
Practice	Selection, synthesis	Automated transfer	Pattern recognition
Ontology	Universals	Particulars	Families

Objectivity as Social Agreement

"If the judgement is valid for everyone, provided only he is in possession of reason, its ground is objectively sufficient" (Kant, trad. Kemp,1965)

"we may conclude that there is such a thing as **objectivity of interpretation**: the vast majority of decisions we make in this realm are decisions on which all (or most) **competent readers** agree or seem likely to agree" (Huitfeldt, 2006)

Sounds very civilized, but

- How do we assess such an agreement?

- How do we assess competencies?

Objectivity – Subjectivity

A continuity that has no ending nor beginning.

All our activities collocate somewhere in this continuity (Huitfeldt, 2006)

Where?

Does it really matter?

Objectivity?

- Can a model be objective?

- Should a model be objective?

- Does it matter?

- Quantitative ≠ Objective

A view from another planet

- Viewed from afar the scientific method is quite simple, really

- Viewed from afar scientists do not have doubts: they have mathematics instead

- Viewed from up close: it's all another story

Scientific method

- Accountability and Transparency

- Reproducibility

- Quantitative and Qualitative (!!)

- And many more lovely things, more complex than one expects!

- The machine? What about it?

DH and the bridging of the Two Cultures

- Modelling = critical analysis and critical thinking at its best

- DH can indeed bridge the gap

- But! We need to do our home work!